

**In re: Camp Lejeune Water Litigation**  
**Appendix A**  
**Specifications for Production of ESI and Digitized (“Scanned”) Images**  
**(“Production Specifications”)**

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**Collection of Electronically Stored Information (ESI)**

Careful consideration should be given to the methodology, implementation, and documentation of ESI collection to ensure that all responsive data and metadata are preserved in the collection process. Consideration should also be given as to whether production media should be encrypted when required by law (i.e. Health Insurance Portability and Accountability Act (HIPAA), Family Educational Rights and Privacy Act (FERPA), etc. *See* Sections 18 & 19 below.

**1. Specification Modifications**

As provided in the ESI Protocol, the Parties agree to meet and confer regarding modifications or deviations from the Production Specifications.

**2. Production Format of ESI and Imaged Hard Copy Documents**

Responsive ESI and Imaged Hard Copy Documents shall be produced in the format outlined below. All ESI, except as outlined below in sections 5 – 15, shall be rendered to TIFF image format, and accompanied by an Opticon/Concordance® Image Cross Reference file. All applicable metadata/database (see section 3 below) shall be extracted and provided in Concordance® load file format.

- a. **Image File Format:** All documents shall be produced in black and white TIFF format unless the image requires color. An image requires color when color in the document adds emphasis to information in the document or is itself information that would not be readily apparent on the face of a black and white image.
- b. When producing black and white paper documents scanned to images, or rendered ESI, they shall be produced as 300 dpi, 1 bit, single-page TIFF files, CCITT Group IV (2D Compression). When producing in *color*, paper documents scanned to images, or rendered ESI, they shall be produced as 300 dpi single-page JPG. Images should be uniquely and sequentially Bates numbered and unless otherwise specified, Bates numbers should be an endorsement on each image.
  - i. All TIFF file names shall include the unique Bates number burned into the image. (See section 16, below, regarding Bates number instructions.)
  - ii. All TIFF image files shall be stored with the “.tif” extension.
  - iii. Images without corresponding extracted text shall be OCR’d using standard COTS products.
  - iv. All pages of a document or all pages of a collection of documents that comprise a folder or other logical grouping, including a box, shall be delivered on a single piece of media.
  - v. No image folder shall contain more than 2,000 images.
- c. **Opticon/Concordance® Image Cross Reference file:** Images should be accompanied by an Opticon load file that associates each Bates number with its

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corresponding single-page TIFF image file. The Cross Reference file should also contain the relative image file path for each Bates numbered page. The Opticon/Concordance® Image Cross Reference file is a page level load file, with each line representing one image.

Below is a sample:

```
REL000000001,,.\IMAGES\001\REL000000001.TIF,Y,,,
REL000000002,,.\IMAGES\001\REL000000002.TIF,,,,
REL000000003,,.\IMAGES\001\REL000000003.TIF,,,,
REL000000004,,.\IMAGES\001\REL000000004.TIF,Y,,,
REL000000005,,.\IMAGES\001\REL000000005.TIF,,,,
```

The fields are, from left to right:

- Field One – (REL000000001) – the Bates Number. This value must be unique for each row in the OPT file. The first page of each document must match the DOCID or BEGDOC# value of the respective document.
  - Field Two – (blank) – the volume identifier. This field is not required.
  - Field Three – (.\\IMAGES\001\REL000000001.TIF) – The relative file path to the image to be loaded.
  - Field Four – (Y) – the document marker. A “Y” indicates the start of a unique document.
  - Field Five – (blank) – The folder indicator. This field is not required, and typically is not used.
  - Field Six – (blank) – The box indicator. This field is not required, and typically is not used.
  - Field Seven – (blank) – The page count. This field is not required.
- d. **Concordance® Load File:** Images should also be accompanied by a flat, document-level load file to provide the metadata and native files containing delimited text that will populate fields in a searchable, flat database environment. The file encoding must be one of four types: Western European (Windows), Unicode (UTF16), Big-Endian Unicode or UTF8. The file should contain the required fields listed below in section 3.

1. Text delimited load files are defined using the standard Concordance delimiters. For example:

<i>Field Separator</i>	¶ or Code 020
<i>Text Qualifier</i>	þ or Code 254
<i>Newline</i>	® or Code 174
<i>Multi-value</i>	; or Code 059
<i>Nested values</i>	\ or Code 092

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2. This load file should contain the relative file path to the individual multi-page, document level text files.
3. This load file should also contain the relative file path to all provided native files, such as Microsoft Excel or PowerPoint files.
4. There should be one line for every record in a collection.
5. The load file must contain a header listing the metadata/database fields contained within. For example, if the data file consists of a First Page of a Record (BegDoc#), Last Page of a Record (ending Bates / ENDDOC#), DOCID, DOCDate, File Name, and a Title, then the structure may appear as follows:

bBEGDOCb bENDDOCb bDOCIDb bDOCDATEb bFILENAM  
Eb bTITLEb

- d. **The extracted/OCR text** should be provided for each document as a separate single text file. The file name should match the BEGDOC# or DOCID for that specific record and be accompanied by the .txt extension.
- e. **Directory and folder structure:** The directory structure for productions should be:
  - \CaseName\LoadFiles*
  - \CaseName\Images* < For supporting images (can include subfolders as needed, should not include more than 2,000 files per folder)
  - \CaseName\Natives* <Native Files location (can include subfolders as needed, should not include more than 2,000 files per folder)
  - \CaseName\Text* <Extracted Text files location (can include subfolders as needed, should not include more than 2,000 files per folder)
  - \CaseName\Translated Images* < For supporting images of translated documents (as needed for rendered translated documents; can include subfolders as needed, should not include more than 2,000 files per folder)
  - \CaseName\Translated Text* <Translated Text files location (as needed for translated text; can include subfolders as needed, should not include more than 2,000 files per folder).

### **3. Required Metadata/Database Fields**

A “√” denotes that the indicated field should be present in the load file produced. “Other ESI” includes data discussed in sections 5 – 15 below, but does not include email, email repositories (section 11), “stand alone” items (section 12), and imaged hard copy material (section 9). Email, email repositories, and “stand alone” materials (section 12) should comply with “Email” column below. Imaged hard copy materials should comply with the “Hard Copy” column. The Parties agree to meet and confer about any field which cannot be populated automatically (i.e. would require manual population of information).

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Field name	Field Description	Field Type	Field Value	Hard Copy	E-mail	Other ESI
COLLECTION SOURCE	Name of the Company/Organization data was collected from	Text	160	✓	✓	✓
SOURCE ID (BOX #)	Submission/volume/box number	Text	10	✓	✓	✓
CUSTODIAN	Custodian/Source - format: Last, First or ABC Dept.	Text	160	✓	✓	✓
DUPECUSTODIAN	Custodian/Source – all custodians who had the document before de-duplication; format: Last, First or ABC Dept.	Text – semicolon delimited	Unlimited		✓	✓
DUPECUSTODIAN FILE PATH	Listing of all the file locations of the document before de-duplication	Text – semicolon delimited	Unlimited		✓	✓
AUTHOR	Creator of the document	Text	500			✓
BEGDOC#	Start Bates (including prefix) - No spaces	Text	60	✓	✓	✓
ENDDOC#	End Bates (including prefix) - No spaces	Text	60	✓	✓	✓
DOCID	Unique document Bates # or populate with the same value as Start Bates (DOCID = BEGDOC#)	Text	60	✓	✓	✓
PGCOUNT	Page Count	Number	10	✓	✓	✓
GROUPID	Contains the Group Identifier for the family, in order to group files with their attachments	Text	60		✓	✓
PARENTID	Contains the Document Identifier of an attachment’s parent	Text	60		✓	✓
ATTACHIDS	Child document list; Child DOCID or Child Start Bates	Text – semicolon delimited	Unlimited	✓	✓	✓
ATTACHLIST	List of Attachment filenames	Text – semicolon delimited	Unlimited		✓	✓

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BEGATTACH	Start Bates number of parent	Text	60	✓	✓	✓
ENDATTACH	End Bates number of last attachment	Text	60	✓	✓	✓
PRODUCTION DATE	Date of production	Date	DD/MM/YYYY	✓	✓	✓
RECORD TYPE	Use the following choices: Image, Loose E-mail, E-mail, E-Doc, Attachment, Hard Copy or Other. If using Other, please specify what type after Other	Text	60		✓	✓
FROM	Sender (i.e.: e-mail address, Last name, First name)	Text	160		✓	✓
TO	Recipient (i.e.: e-mail address, Last name, First name)	Text – semicolon delimited	Unlimited		✓	✓
CC	Carbon Copy Recipients (i.e.: e-mail address, Last name, First name)	Text – semicolon delimited	Unlimited		✓	✓
BCC	Blind Carbon Copy Recipients (i.e.: e-mail address, Last name, First name)	Text – semicolon delimited	Unlimited		✓	✓
SUBJECT	Subject line of email	Text	Unlimited		✓	
TITLE	Document Title	Text	Unlimited			✓
CONVINDEX	E-mail system ID used to track replies, forwards, etc.	Text	Unlimited		✓	
DOCDATE	Last Modified Date for files and Sent date for e-mail, this field inherits the date for attachments from their parent. Do not provide 00/00/0000.	Date	MM/DD/YYYY		✓	✓
TEXT FILEPATH	Relative file path of the text file associated with either the extracted text or the OCR	Text	Unlimited	✓	✓	✓

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DATE TIME SENT	Date and time Sent (USE TIME ZONE OF COLLECTION LOCALITY) Numbers must be populated. If date is unknown, leave blank. Do not provide 00/00/0000	Date and Time	MM/DD/YYYY HH:MM:SS		✓	
DATE TIME CRTD	Date Created (USE TIME ZONE OF COLLECTION LOCALITY) Numbers must be populated. If date is unknown, leave blank. Do not provide 00/00/0000	Date and Time	MM/DD/YYYY HH:MM:SS		✓	✓
DATE TIME SVD	Date Saved (USE TIME ZONE OF COLLECTION LOCALITY) Numbers must be populated. If date is unknown, leave blank. Do not provide 00/00/0000	Date and Time	MM/DD/YYYY HH:MM:SS		✓	✓
DATE TIME MOD	Date Last Modified (USE TIME ZONE OF COLLECTION LOCALITY) Numbers must be populated. If date is unknown, leave blank. Do not provide 00/00/0000	Date and Time	MM/DD/YYYY HH:MM:SS		✓	✓

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Field name	Field Description	Field Type	Field Value	Hard Copy	E-mail	Other ESI
DATE TIME RCVD	Date Received (USE TIME ZONE OF COLLECTION LOCALITY) Numbers must be populated. If date is unknown, leave blank. Do not provide 00/00/0000	Date and Time	MM/DD/YYYY HH:MM:SS		✓	
DATE TIME ACCD	Date Accessed (USE TIME ZONE OF COLLECTION LOCALITY) Numbers must be populated. If date is unknown, leave blank. Do not provide 00/00/0000	Date and Time	MM/DD/YYYY HH:MM:SS		✓	✓
TIME ZONE OFFSET	Time zone of collection locality, relative to Coordinated Universal Time (UTC). E.g., for US Central Standard Time (CST), the value for this field should be - 6.0	Decimal	10		✓	
FILE SIZE	Native File Size in KBs	Decimal	10			✓
FILE NAME	File name - name of file as it appeared in its original location	Text	Unlimited			✓
APPLICATION	Application used to create native file (e.g. Excel, Outlook, Word)	Text	160		✓	✓
FILE EXTENSION	Extension for the file (e.g. .doc, .pdf, .wpd)	Text	10		✓	✓
FILEPATH	Data’s original source full folder path	Text	Unlimited		✓	✓
NATIVE LINK	Relative file path location to the native file	Text	Unlimited		✓	✓

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Field name	Field Description	Field Type	Field Value	Hard Copy	E-mail	Other ESI
FOLDER ID	Complete E-mail folder path (e.g. Inbox\Active) or Hard Copy container information (e.g. folder or binder name)	Text	Unlimited		✓	
HASH VALUE	Identifying value of an electronic record that is used for deduplication during processing. MD5 or SHA1 hash algorithms may be used, but must be kept consistent throughout all productions and communicated to Government.	Text	Unlimited		✓	✓
MESSAGEHEADER	E-mail header.	Text	Unlimited		✓	
ATTACHMOUNT	Number of attachments (any level child document) associated with a ParentID	Text	10		✓	
FILE TYPE	Description that represents the file type to the Windows Operating System. E.g., Adobe Portable Document Format, Microsoft Word 97 – 2003, or Microsoft Office Word Open XML Format.	Text	160		✓	✓
HAS HIDDEN CONTENT	Identifies whether the document has comments, track changes or other hidden content or data associated with it	Text	Yes/No		✓	✓
MESSAGE TYPE	Exchange Message class or equivalent	Text	60		✓	
EXTENDED PROPERTIES		Text	Unlimited		✓	✓



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<b>Field name</b>	<b>Field Description</b>	<b>Field Type</b>	<b>Field Value</b>	<b>Hard Copy</b>	<b>E-mail</b>	<b>Other ESI</b>
HAS REDACTIONS	Identifies whether a record has been produced with redactions; should be populated with Y for records with redactions and N for records without redactions.	Text	Yes/No	✓	✓	✓
HAS TRANSLATIONS	Identifies whether a document has been produced with translated text or audio contains a transcript	Text	Yes/No	✓	✓	✓

**4. Search, De-Duplication, Near-Duplicate Identification, Technology Assisted Review, E-mail Conversation Threading and Other Culling Procedures**

- a. The Parties will make best efforts to perform global de-duplication across all custodians and populate the DupeCustodian field. The Parties agree to meet and confer about any de-duplication disputes.
- b. All files found on the National Institute of Standards and Technology (NIST) list, commonly referred to as deNISTing, should be excluded from discovery. All available metadata from files withheld from delivery due to the deNISTing process will be available upon request.
- c. If de-duplication is utilized, all files should be globally de-duplicated with the following conditions:
  - i. The “DupeCustodian” metadata field (listing of all custodians who had the document before de-duplication) must be provided with the document production.
  - ii. The “DupeCustodian File Path” metadata field (listing all the file locations of the document before de-duplication) must be provided with the document production.
  - iii. All files and metadata for the duplicate documents removed during de-duplication must be preserved and available for production upon request.
  - iv. No customization of hashing may occur without prior express approval by the Receiving Party.
  - v. De-duplication must be done by document family, not by individual document.
  - vi. A detailed description of the steps taken to de-duplicate (including the process

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of obtaining hash values) must be provided to the Receiving Party. For every production after the first, a separate Unified Custodian overlay shall be provided. If no overlay is necessary due to the fact that no documents deduplicated in connection with previously produced documents, this shall be expressly stated in the cover letter accompanying the subsequent production(s).

- d. Email thread analysis may be used to reduce the volume of emails reviewed and produced. The produced emails must include all of the unique responsive information from a thread, including attachments. For example, if an email in a string deviates from the thread such that it contains attachments that are not included in the most complete thread, then that individual email and its attachments shall also be produced. However, at the request of the Receiving Party, the Producing Party, shall produce specifically identified lesser included e-mails.
- e. The Producing Party shall not use any other procedure to cull, filter, group, separate or de-duplicate, or near-deduplicate, etc. (i.e., reduce the volume of) responsive material before discussing with and obtaining the written approval of the government. All objective coding (e.g., near duplicate ID or e-mail thread ID) shall be discussed and may be produced as additional metadata fields if necessary.

**5. Hidden Text**

Subject to the provisions of Section 10, all hidden text (e.g. track changes, hidden columns, mark-ups, notes) shall be expanded and rendered in the image file. If an Adobe PDF’s hidden text cannot be expanded and rendered in an image file, it need only be produced in native form if individually requested by a specific document identifier or bates number. For Word Documents, only Word Documents with hidden text are required to be produced in native format. For all other files that cannot be expanded, the Parties shall meet and confer to determine whether the native files shall be produced with the image file. Notwithstanding, Parties may produce imaged versions with no corresponding files when redactions are required.

**6. Embedded Files and File Links**

All non-graphic embedded objects (Word documents, Excel spreadsheets, .wav files, etc.) that are found within a file shall be extracted and produced. For purposes of production, the embedded files shall be treated as attachments to the original file, with the parent/child relationship preserved.

The parties shall meet and confer regarding how to treat file links, including links within e-mails to centralized document repositories (e.g. MS OneDrive and Google Drive).

**7. Image-Only Files**

All image-only files (non-searchable .pdfs, multi-page TIFFs, Snipping Tool and other screenshots, etc., as well as all other images that contain text) shall be produced with OCR text

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and metadata/database fields identified in section 3 for “Other ESI.”

**8. Encrypted Files**

Producing parties shall use their best efforts to decrypt any data (whether individual files or digital containers) that is protected by a password, encryption key, digital rights management, or other encryption scheme.

**9. Production of Imaged Hard Copy Records**

All imaged hard copy material shall reflect document unitization to the extent feasible and shall include all attachments and container information (if applicable, and to be reflected in the PARENTID, ATTACHID, BEGATTACH, ENDATTACH and FOLDERID fields).

- a. Unitization in this context refers to identifying and marking the boundaries of documents within the collection, where a document is defined as the smallest physical fastened unit within a bundle. (e.g., staples, paperclips, rubber bands, folders, or tabs in a binder).
- b. All imaged hard copy documents shall be produced as 300 dpi single-page TIFF files, CCITT Group IV (2D Compression). All documents shall be produced in black and white TIFF format unless the image requires color. An image requires color when color in the document adds emphasis to information in the document or is itself information that would not be readily apparent on the face of a black and white image. Images identified as requiring color shall be produced as color 300 dpi single-page JPEG files.
- c. All objective coding (e.g., document date or document author) should be discussed and may be included as additional metadata/database fields should they be deemed as necessary.

**10. Production of Spreadsheets and Presentation Files**

All spreadsheet and presentation files (e.g. Excel, PowerPoint) shall be produced in the unprocessed “as kept in the ordinary course of business” state (i.e., in native format), with an associated placeholder image and endorsed with a unique Bates number. *See* section 16 below. The file produced should maintain the integrity of all source, custodian, application, embedded and related file system metadata.

**11. Production of E-mail Repositories**

E-mail repositories, also known as e-mail databases (e.g., Outlook PST, Lotus NSF), can contain a variety of items, including: messages, calendars, contacts, tasks, etc. E-mail database systems should not be produced without consultation with and written consent of the government about the format for the production of such databases.

**12. Production of Items Originally Generated in E-mail Repositories but Found and Collected Outside of E-mail Repositories, i.e., “Stand-alone” Items**

Any parent e-mail or other parent items (e.g., calendar, contacts, tasks, notes, etc.) found and collected outside of e-mail repositories (e.g., items having extensions .msg, .htm, .mht, etc.),

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shall be produced with the “Loose E-mail” metadata fields outlined in section 3, including but not limited to any attachments, maintaining the family (parent/child) relationship.

**13. Production of Structured Data**

Prior to any production of responsive data from a structured database (e.g., Oracle, SAP, SQL, MySQL, QuickBooks, proprietary timekeeping, accounting, sales rep call notes, CRMs, SharePoint, etc.), the producing party shall first identify the database type and version number, discuss providing the database dictionary (in whole or part) and any user manuals, or any other documentation describing the structure and/or content of the database and a list of all reports that can be generated from the database. The Parties agree that, if a report is provided, the standard format of that report provided should be in comma separated values (.csv) format. The information contained in any such report must be thoroughly explained before production.

**14. Production of Photographs with Native File or Digitized ESI**

Photographs shall be produced as single-page JPEG files with a resolution equivalent to the original image as they were captured/created. All JPEG files shall have extracted metadata/database fields provided in a Concordance® load file format as outlined in section 3 for “Other ESI.” Photographs originally captured on a mobile device shall be treated as mobile device data under Section 17 herein.

**15. Production of Native Files (When Applicable Pursuant to These Specifications)**

Production of native files, as called for in these specifications, shall have extracted metadata/database fields provided in a Concordance® load file format as defined in the field specifications for “Other ESI” as outlined in section 3 as well as a placeholder image which indicates a native file is being produced.

ESI shall be produced in a manner which is functionally usable by the government. The following are examples:

- a. AutoCAD data, e.g., DWG and DXF files, shall be processed/converted and produced as single-page JPG image files and accompanied by a Concordance® Image formatted load file as described above. The native files shall be placed in a separate folder on the production media and linked by a hyperlink within the text load file.
- b. GIS data shall be produced in its native format and be accompanied by a viewer such that the mapping or other data can be reviewed in a manner that does not detract from its ability to be reasonably understood.
- c. Audio and video recordings shall be produced in native format and be accompanied by a viewer if such recordings do not play in a generic application (e.g., Windows Media Player). If needed, The Parties shall meet and confer to discuss the appropriate manner for the production of audio/visual files that require redaction.

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**16. Bates Number Convention**

All images should be assigned Bates numbers. Each Bates number shall be a standard length, include leading zeros in the number, and be unique for each produced page. The numbers should be endorsed on the actual images at a location that does not obliterate, conceal, or interfere with any information from the source document. Native files should be assigned a single Bates number for the entire file which will represent the native document in the Opticon/Concordance® Image Cross Reference file. The load file will include a reference to the native file path and utilize the NATIVELINK metadata field). The Bates number shall not exceed 30 characters in length and shall include leading zeros in the numeric portion. The Bates number shall be a unique number given sequentially (i.e. page one of document is PREFIX0000000001, page two of the same document is PREFIX0000000002) to each page (when assigned to an image) or to each document (when assigned to a native file). The prefix should indicate the case number and source of the records followed by a ten-digit numeric value. Productions related to all cases should include the master case number (i.e. 00897\_NAVY\_0000000001). For Plaintiff Productions, the prefix should include the last five digits of the individual case number and the party’s surname followed by a ten-digit numeric value (i.e. 00XXX\_SURNAME\_0000000001). If the parties agree to a rolling production, the numbering convention shall remain consistent throughout the entire production. There shall be no spaces between the prefix and numeric value. If suffixes are required, please use “dot notation.” Below is a sample of dot notation:

	<u>Document #1</u>	<u>Document #2</u>
Page #1	PREFIX0000000001	PREFIX0000000002
Page #2	PREFIX0000000001.002	PREFIX0000000002.002
Page #3	PREFIX0000000001.003	PREFIX0000000002.003

**17. Other Production Formats**

If other ESI or document production formats are required but are not included in these specifications (including, but not limited to, mobile devices, workplace collaboration sites (e.g. Teams, Slack), smart phones, social media, translated documents, audio files, non-Windows based documents and non-PC based documents), the parties shall meet and confer on the specific technical production specifications required prior to production.

**18. Media Formats for Storage and Delivery of Production Data**

Electronic documents and data shall be delivered on any of the following media:

- a. **All media shall be encrypted for transfer.** The media product or hardware must be FIPS 140-2 compliant. Password(s) or passcode(s) shall be provided in a communication that does not accompany the media
- b. CD-ROMs and/or DVD-R (+/-) formatted to ISO/IEC 13346 and Universal Disk Format 1.02 specifications; Blu-ray.
- c. External hard drives (USB 3.0 or higher, formatted to NTFS format specifications) or flash drives
- d. Government approved File Transfer Protocol (FTP) technologies.

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- e. Storage media used to deliver ESI shall be appropriate to the size of the data in the production.
- f. Media should be labeled with the case name, production date, Bates range, and producing party.

**19. Virus Protection and Security for Delivery of Production Data**

Production data shall be free of computer viruses. Any files found to include a virus shall be quarantined by the producing party and noted in a log to be provided to the government. Password protected or encrypted files or media for delivery of production data shall be provided with corresponding passwords and specific decryption instructions. All encryption software used for the delivery of production data shall be used with approval by and with the written consent of the government.

**20. Compliance and Adherence to Generally Accepted Technical Standards**

Production shall be in conformance with standards and practices established by the National Institute of Standards and Technology (“NIST” at [www.nist.gov](http://www.nist.gov)), U.S. National Archives & Records Administration (“NARA” at [www.archives.gov](http://www.archives.gov)), American Records Management Association (“ARMA International” at [www.arma.org](http://www.arma.org)), American National Standards Institute (“ANSI” at [www.ansi.org](http://www.ansi.org)), International Organization for Standardization (“ISO” at [www.iso.org](http://www.iso.org)), and/or other U.S. Government or professional organizations.

**21. Read Me Text File**

All deliverables shall include a “read me” text file at the root directory containing: total number of records, total number of images/pages or files, mapping of fields to plainly identify field names, types, lengths, and formats. The file shall also indicate the field name to which images will be linked for viewing, date and time format, and confirmation that the number of files in load files matches the number of files produced.

**22. Transmittal Letter to Accompany Deliverables**

All deliverables should be accompanied by a transmittal letter including the production date, case name and number, producing party name, and Bates range produced. Technical instructions on how to decrypt media should be included in the transmittal letter but the password should be transmitted separately.